

SYSTEM AND METHOD FOR ADAPTIVE PHASE COMPENSATION OF OFDM SIGNALS

Abstract of the Disclosure

An OFDM receiver applies phase compensation to subcarriers of data symbols of an OFDM packet. A phase compensation estimate is generated from pilot subcarriers within the data symbol and applied to the subcarriers of the data symbol prior to demapping. The pilot subcarriers of the data symbol are combined and weighted to generate an observation vector. Recursive filtering is performed on the observation vector to generate the phase compensation estimate. The recursive filtering may include performing an extended Kalman-type filtering (EKF) operation on the observation vector using a channel estimate, an additive noise power estimate, a signal to noise ratio (SNR) estimate and a priori information about a dynamic model of the phase noise spectrum of transceiver oscillators. The channel estimate may be generated from a long training symbol of the OFDM packet, and the additive noise power estimate and the SNR estimate may be generated from short training symbols of the OFDM packet.

'Express Mail" mailing label number: EV332571679US

Date of Deposit: September 30, 2003

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